

**In the Claims:**

1. (Previously Presented) An opto-electrical device comprising:  
an anode electrode;  
a cathode electrode; and  
an opto-electrically active region located between the electrodes;  
the cathode electrode including:  
a first layer comprising a metal having a work function below 3.5 eV;  
a second layer of a different composition from the first layer, comprising a material different from the metal of the first layer having a work function below 3.5 eV, the second layer being further from the opto-electrically active region than the first layer; and  
a third layer comprising a material having a work function above 3.5 eV, the third layer being further from the opto-electrically active region than the first layer.
2. (Previously Presented) An opto-electrical device as claimed in claim 1, wherein the second layer comprises a compound of a metal selected from the group consisting of group 1 metals, group 2 metals, and transition metals.
3. (Original) An opto-electrical device as claimed in claim 2, wherein the compound is a halide.
4. (Previously Presented) An opto-electrical device as claimed in claim 2, wherein the compound is a fluoride.
5. (Previously Presented) An opto-electrical device as claimed in claim 2, wherein the metal is a group 1 metal or a group 2 metal.

6. (Original) An opto-electrical device as claimed in claim 5, wherein the metal is lithium.

7. (Canceled).

8. (Canceled).

9. (Previously Presented) An opto-electrical device as claimed in claim 2, wherein the second layer comprises a metal.

10. (Previously Presented) An opto-electrical device as claimed in claim 9, wherein the second layer comprises a metal selected from the group consisting of Li, Ba, Mg, Ca, Ce, Cs, Eu, Rb, K, Y, Sm, Na, Sm, Sr, Tb, and Yb.

11. (Previously Presented) An opto-electrical device as claimed in claim 1, wherein the second layer is thicker than the first layer.

12. (Previously Presented) An opto-electrical device as claimed in claim 1, wherein the thickness of the second layer is greater than 100 Å.

13. (Previously Presented) An opto-electrical device as claimed in claim 1, wherein the said material having a work function below 3.5 eV of which the first layer is comprised has a higher work function than the said material having a work function below 3.5 eV of which the second layer is comprised.

14. (Previously Presented) An opto-electrical device as claimed in claim 1, wherein the thickness of the third layer is greater than 1000 Å.

15. (Previously Presented) An opto-electrical device as claimed in claim 1, wherein the said material having a work function above 3.5 eV has an electrical conductivity greater than  $10^5 (\Omega \cdot \text{cm})^{-1}$ .

16. (Previously Presented) An opto-electrical device as claimed in claim 1, wherein the said material having a work function above 3.5 eV is aluminium, gold or indium-tin oxide.

17. (Previously Presented) An opto-electrical device as claimed in claim 1, wherein the cathode is transparent.

18. (Previously Presented) An opto-electrical device as claimed in claim 1, wherein the opto-electrically active region is light-emissive.

19. (Previously Presented) An opto-electrical device as claimed in claim 1, wherein the opto-electrically active region comprises a light-emissive organic material.

20. (Original) An opto-electrical device as claimed in claim 19, wherein the light-emissive organic material is a polymer material.

21. (Original) An opto-electrical device as claimed in claim 20, wherein the light-emissive organic material is a conjugated polymer material.

22. (Previously Presented) An opto-electrical device as claimed in claim 19, comprising a charge transport layer between the light-emissive organic material and one of the electrodes.

23. (Previously Presented) A method for forming an opto-electrical device, the method comprising:

depositing an anode electrode;

depositing over the anode electrode a region of an opto-electrically active material;

depositing over the region of opto-electrically active material a metal having a work function below 3.5 eV to form a first cathode layer;

depositing over the first cathode layer another material having a work function below 3.5 eV to form a second cathode layer of a different composition from the first cathode layer; and

depositing over the second cathode layer a material having a work function above 3.5 eV to form a third cathode layer.

24. (Canceled).

25. (Canceled).

26. (Previously Presented) An opto-electrical device as claimed in claim 4, wherein the metal is a group 1 metal or a group 2 metal.

27. (Previously Presented) An opto-electrical device as claimed in claim 26, wherein the metal is lithium.

28. (Canceled).

29. (Canceled).

30. (Previously Presented) An opto-electrical device as claimed in claim 4, wherein the second layer comprises a metal.

31. (Previously Presented) An opto-electrical device as claimed in claim 30, wherein the second layer comprises a metal selected from the group consisting of Li, Ba, Mg, Ca, Ce, Cs, Eu, Rb, K, Y, Sm, Na, Sm, Sr, Tb, and Yb.

32. (Previously Presented) An opto-electrical device comprising:  
an anode electrode;  
a cathode electrode; and  
an opto-electrically active region located between the electrodes;  
the cathode electrode including:  
a first layer comprising a first material having a work function below 3.5 eV;  
a second layer of a different composition from the first layer, comprising a second material having a work function below 3.5 eV, the second layer being further from the opto-electrically active region than the first layer; and  
a third layer comprising a material having a work function above 3.5 eV, the third layer being further from the opto-electrically active region than the first layer,  
wherein the first material has a higher work function than the second material.

33. (New) An opto-electrical device as claimed in claim 32, wherein one of the first and second layers comprises a compound of a group 1 or group 2 or transition metal.

34. (New) An opto-electrical device as claimed in claim 33, wherein the compound is a halide.

35. (New) An opto-electrical device as claimed in claim 33, wherein the compound is a fluoride.

36. (New) An opto-electrical device as claimed in claim 33, wherein the metal is a group 1 metal or a group 2 metal.

37. (New) An opto-electrical device as claimed in claim 36, wherein the metal is lithium.

38. (New) An opto-electrical device as claimed in claim 33, wherein the said one of the layers is the first layer.

39. (New) An opto-electrical device as claimed in claim 33, wherein the said one of the layers is the second layer.

40. (New) An opto-electrical device as claimed in claim 33, wherein the other of the first and second layers comprises a metal.

41. (New) An opto-electrical device as claimed in claim 33, wherein the other of the first and second layers comprises a metal selected from the group consisting of Li, Ba, Mg, Ca, Ce, Cs, Eu, Rb, K, Y, Sm, Na, Sr, Tb, and Yb.

42. (New) An opto-electrical device as claimed in claim 35, wherein the metal is a group 1 metal or a group 2 metal.

43. (New) An opto-electrical device as claimed in claim 42, wherein the metal is lithium.

44. (New). An opto-electrical device as claimed in claim 35, wherein the said one of the layers is the first layer.

45. (New). An opto-electrical device as claimed in claim 35, wherein said one of the layers is the second layer.

46. (New) An opto-electrical device as claimed in claim 35, wherein the other of the first and second layers comprises a metal.

47. (New) An opto-electrical device as claimed in claim 46, wherein the other of the first and second layers comprises a metal selected from the group consisting of Li, Ba, Mg, Ca, Ce, Cs, Eu, Rb, K, Y, Sm, Na, Sm, Sr, Tb, and Yb.

48. (New) An opto-electrical device as claimed in claim 32, wherein the second layer is thicker than the first layer.

49. (New) An opto-electrical device as claimed in claim 32, wherein the thickness of the second layer is greater than 100 Å.

50. (New) An opto-electrical device as claimed in claim 32, wherein the thickness of the third layer is greater than 1000 Å.

51. (New) An opto-electrical device as claimed in claim 32, wherein the material having a work function above 3.5 eV has an electrical conductivity greater than  $10^5$  ( $\Omega\cdot\text{cm}$ )-1.

52. (New) An opto-electrical device as claimed in claim 32, wherein the material having a work function above 3.5 eV is aluminium, gold or indium-tin oxide.

53. (New) An opto-electrical device as claimed in claim 32, wherein the cathode is transparent.

54. (New) An opto-electrical device as claimed in claim 32, wherein the opto-electrically active region is light-emissive.

55. (New) An opto-electrical device as claimed in claim 32, wherein the opto-electrically active region comprises a light-emissive organic material.

56. (New) An opto-electrical device as claimed in claim 55, wherein the light-emissive organic material is a polymer material.

57. (New) An opto-electrical device as claimed in claim 55, wherein the light-emissive organic material is a conjugated polymer material.

58. (New) An opto-electrical device as claimed in claim 55, comprising a charge transport layer between the light-emissive organic material and one of the electrodes.

59. (New) A method for forming an opto-electrical device, the method comprising:



depositing an anode electrode;

depositing a region of an opto-electrically active material over the anode electrode;

depositing a material having a work function below 3.5 eV over the region of opto-electrically active material to form a first cathode layer;

depositing a second material having a work function below 3.5 eV over the first cathode layer to form a second cathode layer of a different composition from the first cathode layer;

depositing a third material having a work function above 3.5 eV over the second cathode layer to form a third cathode layer,

wherein the first material has a higher work function than the second material.

60. (New) An opto-electrical device comprising:

an anode electrode;

a cathode electrode; and

an opto-electrically active region located between the electrodes;

the cathode electrode including:

a first layer comprising a first material having a work function below 3.5 eV;

a second layer of a different composition from the first layer, the second layer consisting of a second material having a work function below 3.5 eV and being further from the opto-electrically active region than the first layer; and

a third layer comprising a material having a work function above 3.5 eV, the third layer being further from the opto-electrically active region than the first layer.

61. (New) An opto-electrical device as claimed in claim 60, wherein one of the first and second layers comprises a compound of a group 1 or group 2 or transition metal.

62. (New) An opto-electrical device as claimed in claim 61, wherein the compound is a halide.

63. (New) An opto-electrical device as claimed in claim 61, wherein the compound is a fluoride.

64. (New) An opto-electrical device as claimed in claim 61, wherein the metal is a group 1 metal or a group 2 metal.

65. (New) An opto-electrical device as claimed in claim 64, wherein the metal is lithium.

66. (New) An opto-electrical device as claimed in claim 61 wherein the said one of the layers is the first layer.

67. (New) An opto-electrical device as claimed in claim 61, wherein the said one of the layers is the second layer.

68. (New) An opto-electrical device as claimed in claim 61, wherein the other of the first and second layers comprises a metal.

69. (New) An opto-electrical device as claimed in claim 61, wherein the other of the first and second layers comprises a metal selected from the group consisting of Li, Ba, Mg, Ca, Ce, Cs, Eu, Rb, K, Y, Sm, Na, Sr, Tb, and Yb.

70. (New) An opto-electrical device as claimed in claim 63, wherein the metal is a group 1 metal or a group 2 metal.

71. (New) An opto-electrical device as claimed in claim 70, wherein the metal is lithium.

72. (New). An opto-electrical device as claimed in claim 63, wherein the said one of the layers is the first layer.

73. (New). An opto-electrical device as claimed in claim 63, wherein said one of the layers is the second layer.

74. (New) An opto-electrical device as claimed in claim 63, wherein the other of the first and second layers comprises a metal.

75. (New) An opto-electrical device as claimed in claim 74, wherein the other of the first and second layers comprises a metal selected from the group consisting of Li, Ba, Mg, Ca, Ce, Cs, Eu, Rb, K, Y, Sm, Na, Sm, Sr, Tb, and Yb.

76. (New) An opto-electrical device as claimed in claim 60, wherein the second layer is thicker than the first layer.

77. (New) An opto-electrical device as claimed in claim 60, wherein the thickness of the second layer is greater than 100 Å.

78. (New) An opto-electrical device as claimed in claim 60, wherein the first material has a higher work function than the second material

79. (New) An opto-electrical device as claimed in claim 60, wherein the thickness of the third layer is greater than 1000 Å.

80. (New) An opto-electrical device as claimed in claim 60, wherein the material having a work function above 3.5 eV has an electrical conductivity greater than  $10^5 (\Omega \cdot \text{cm})^{-1}$ .

81. (New) An opto-electrical device as claimed in claim 60, wherein the material having a work function above 3.5 eV is aluminium, gold or indium-tin oxide.

82. (New) An opto-electrical device as claimed in claim 60, wherein the cathode is transparent.

83. (New) An opto-electrical device as claimed in claim 60, wherein the opto-electrically active region is light-emissive.

84. (New) An opto-electrical device as claimed in claim 60, wherein the opto-electrically active region comprises a light-emissive organic material.

85. (New) An opto-electrical device as claimed in claim 84, wherein the light-emissive organic material is a polymer material.

86. (New) An opto-electrical device as claimed in claim 84, wherein the light-emissive organic material is a conjugated polymer material.

87. (New) An opto-electrical device as claimed in claim 84, comprising a charge transport layer between the light-emissive organic material and one of the electrodes.

88. (New) A method for forming an opto-electrical device, the method comprising:

- depositing an anode electrode;
- depositing a region of an opto-electrically active material over the anode electrode;
- depositing a material having a work function below 3.5 eV over the region of opto-electrically active material to form a first cathode layer;
- depositing a second material having a work function below 3.5 eV over the first cathode layer to form a second cathode layer of a different composition from the first cathode layer, the second cathode layer consisting of the second material;
- depositing a third material having a work function above 3.5 eV over the second cathode layer to form a third cathode layer.